

Operating Systems

Lecture 01: Introduction

Learning Outcomes

- This course will give an overview about the operating systems and its tasks.
- The linux system in details

Assessment

Theoretical

- 2 Mid tests (30%)
- Final Exam (60%)

Practical

- Problem solving (10%)

Contents at a glance

(1) Identify The Operating System

(2) Linux system

References

**CompTIA A+ Certification All-in-One For Dummies
(Chapter: Operating System)**

OPERATING SYSTEM CONCEPTS

CompTIA-Linux+Powered-by-LPI

CompTIA Linux+STUDY GUIDE

(1) Identify The Operating System

What is an Operating System?

- OS are software that responsible for managing hardware, resources, and data
- Operating system goals:
 - Execute user programs and make solving user problems easier
 - Make the computer system convenient to use
 - Use the computer hardware in an efficient manner

Operating System Definition

OS is a **resource allocator**

Manages all resources

Decides between conflicting requests for efficient and fair resource use

OS is a **control program**

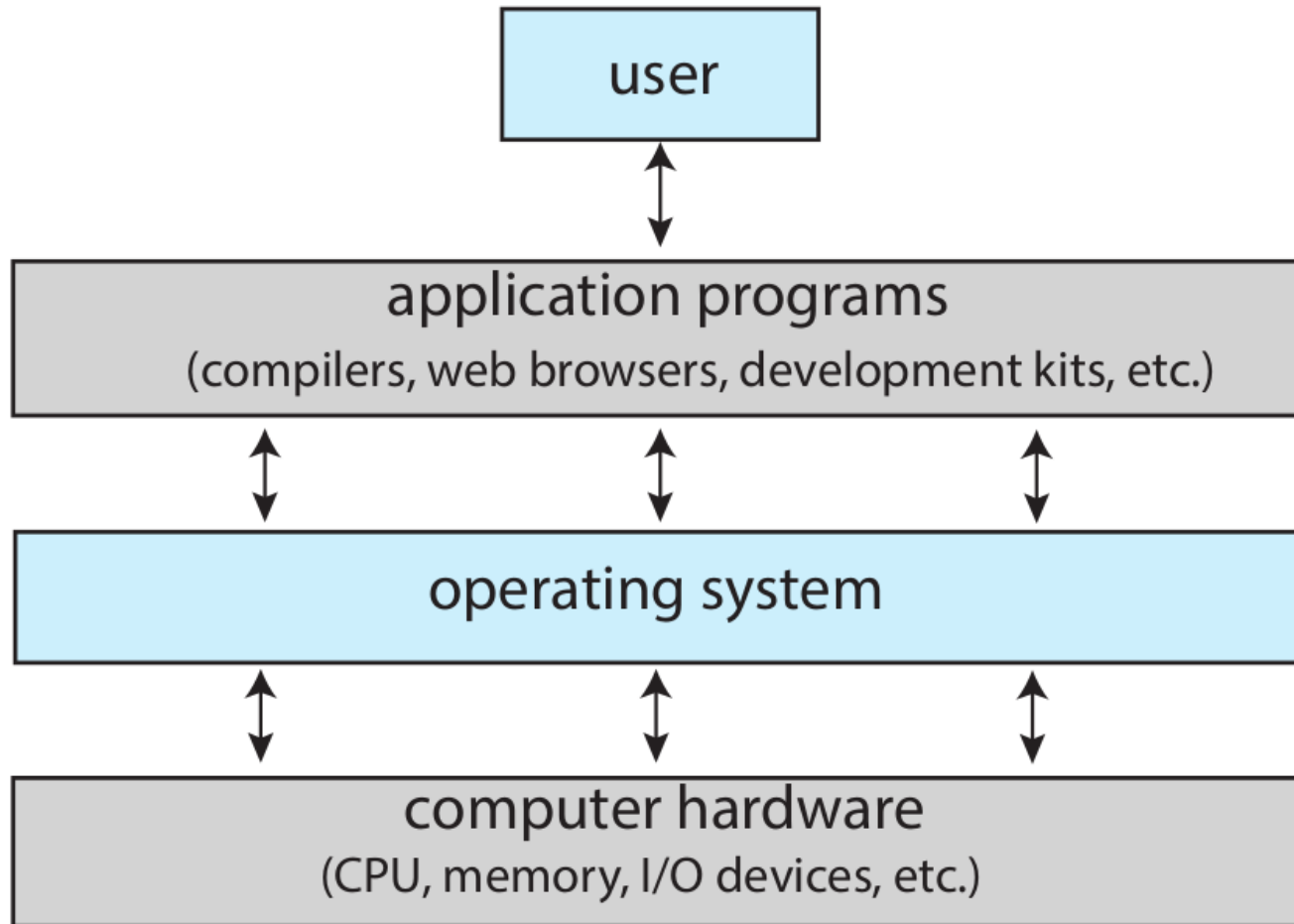
Controls execution of programs to prevent errors and improper use of the computer

Computer System Structure

Computer system can be divided into four components:

- Hardware – provides basic computing resources
 - CPU, memory, I/O devices
- Operating system
 - Controls and coordinates use of hardware among various applications and users
- Application programs – define the ways in which the system resources are used to solve the computing problems of the users
 - Word processors, compilers, web browsers, database systems, video games
- Users
 - People, machines, other computers

(1) Identify The Operating System



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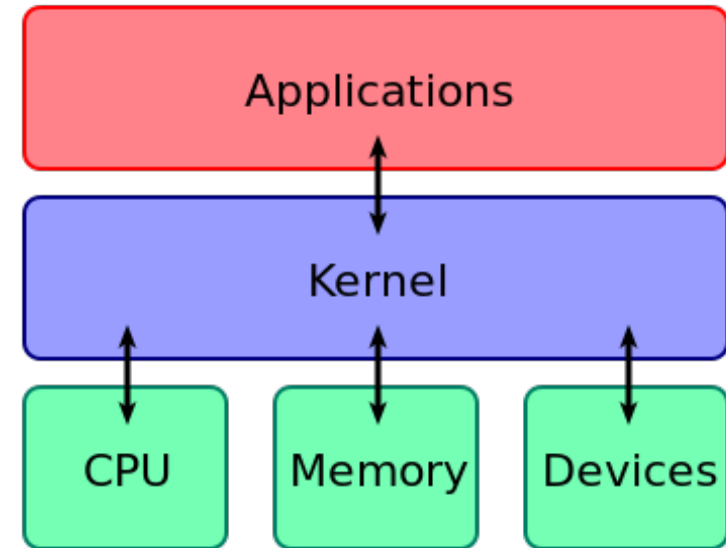
Operating systems interfaces

- CLI (Command Line Interface)
- GUI (Graphical User Interface)

(1) Identify The Operating System

The Kernel:

is a computer program that manages input/output requests from software, and translates them into data processing instructions for the central processing unit and other electronic components of a computer.



The Shell:

is an interface for access to an operating system's services. In general, operating system shells use either a command-line interface (CLI) or graphical user interface (GUI).

To Be Continued inshaa'Allah.....